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09/585,329	06/02/2000	Martin Hollis	723-749	7163

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EXAMINER
GOOD JOHNSON, MOTILEWA

ART UNIT	PAPER NUMBER
2672	

DATE MAILED: 12/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/585,329	Applicant(s) HOLLIS ET AL.
	Examiner Motilewa A. Good-Johnson	Art Unit 2672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _02 June 2000_ .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-23_ is/are pending in the application.

    4a) Of the above claim(s) _3,4 and 23_ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1,2 and 5-22_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) _1-23_ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____ .

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _5, 6_ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

1.   Restriction to one of the following inventions is required under 35 U.S.C. 121:

    I.   Claims 1, 2 and 5-22, drawn to color encoding, classified in class 345,

        subclass 592.

    II.   Claims 3, 4 and 23, drawn to texture coding, classified in class 345,

        subclass 586.

The inventions are distinct, each from the other because of the following reasons:

2.   Inventions I and II are related as subcombinations disclosed as usable together

in a single combination. The subcombinations are distinct from each other if they are

shown to be separately usable. In the instant case, invention I has separate utility such

as encoding color and alpha components for portions of an image. See MPEP §

806.05(d).

3.   Inventions I and II are related as subcombinations disclosed as usable together

in a single combination. The subcombinations are distinct from each other if they are

shown to be separately usable. In the instant case, invention II has separate utility such

as encoding portions of texture data. See MPEP § 806.05(d).

4.   Because these inventions are distinct for the reasons given above and the

search required for Group I is not required for Group II, restriction for examination

purposes as indicated is proper.

5.   During a telephone conversation with Robert Faris on November 22, 2002 a

provisional election was made without traverse to prosecute the invention of Group I,

claims 1, 2 and 5-22. Affirmation of this election must be made by applicant in replying

to this Office action. Claims 3, 4 and 23 withdrawn from further consideration by the

examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

6.   Applicant is reminded that upon the cancellation of claims to a non-elected

invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one

or more of the currently named inventors is no longer an inventor of at least one claim

remaining in the application. Any amendment of inventorship must be accompanied by

a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

> e) the invention was described in (1) an application for patent, published under section 122(b), by
> another filed in the United States before the invention by the applicant for patent or (2) a patent
> granted on an application for patent by another filed in the United States before the invention by the
> applicant for patent, except that an international application filed under the treaty defined in section
> 351(a) shall have the effects for purposes of this subsection of an application filed in the United States
> only if the international application designated the United States and was published under Article 21(2)
> of such treaty in the English language.

2.   Claims 1, 2, 5-16, 18, and 20-22 are rejected under 35 U.S.C. 102(e) as being

anticipated by MacInnis et al., U.S. Patent Number 5,914,725, "Interpolation of Pixel

Values and Alpha Values in a Computer Graphics Display Device", class 345/441,

06/1999.

As per independent claim 1, a stored data element format representing a portion

of an image . . . comprising: a multi-bit alpha component filed . . . and a portion

encoding at least one color component . . . portion having a first length is said multi-bit

alpha component field is present and having a second length greater than said first

length is . . . is not present. MacInnis discloses a coded RGB16 pixel value comprising

15 bits, col. 5, lines 60-63 and further discloses a CLUT8 pixel value comprising 8 bits

and having an addition bits for establishing an alpha value, col. 6, lines 64-67 and col. 7,

lines 1-3.

With respect to dependent claim 2, further including a flag that indicates whether

said multi-bit alpha component field is present in a particular instance of said format.

MacInnis discloses a chroma compare operation using minimum and maximum values

from chroma register and if the overlay pixel value is within a range setting a compare

flag to indicate transparency, col. 9, lines 15-20.

As per independent claim 5, a computer graphics system including a storage

device storing plural data elements corresponding to color image elements, said data

elements including color information and an indicator field indicating whether or not . . .

multi-bit field encoding semi-transparency. MacInnis discloses a chroma compare

operation using minimum and maximum values from memory in a chroma register and if

the pixel value is within a range setting a compare flag, col. 9, lines 15-20.

With respect to dependent claim 6, indicator field comprises a single bit flag. MacInnis discloses the alpha values as 1 if the control bit is not set, col. 7, lines 41-46.

With respect to dependent claim 7, ones of said plural data elements that do not encode semi-transparency use the space . . . to encode said color information at higher resolution. MacInnis discloses high-resolution mode for opaque pixel values without interpolation, col. 9, lines 5-38.

With respect to dependent claim 8, color information encodes each of the three primary colors. MacInnis discloses blending in RGB color space, col. 9, lines 14-23.

With respect to dependent claim 9, data element has a 16-bit length, and said indicator field comprises a single bit. MacInnis discloses an RGB16 and 1-bit alpha control bit, col. 8, lines 58-59.

With respect to dependent claim 10, multi-bit field consists of three bits. MacInnis discloses additional bits 1, 2 or more for establishing an alpha value, col. 7, lines 1-3.

With respect to dependent claim 11, MacInnis discloses a color space converter when interpolation is bypassed in high-resolution mode, col. 9, lines 31-38.

With respect to dependent claims 12 and 13, MacInnis discloses the data passing through a color look-up table to obtain RGB values, col. 9, lines 53-58 and multiplying the RGB data with alpha through the color space converter.

As per independent claim 14, a color image element encoding format comprising: an indicator field indicating whether . . . said format is capable of encoding semi-transparency; MacInnis discloses a chroma compare operation using minimum and

maximum values from chroma register and if the pixel value is within a range setting a

compare flag, col. 9, lines 15-20; and at least one variable sized field encoding further

information concerning said color image element . . . having a first length if said

indicator field indicates said format . . . is incapable . . . and a second length . . . if said

indicator field . . . is capable . . . MacInnis discloses a coded RGB16 pixel value

comprising 15 bits, col. 5, lines 60-63 and further discloses a CLUT8 pixel value

comprising 8 bits and having an addition bits for establishing an alpha value, col. 6,

lines 64-67 and col. 7, lines 1-3.

With respect to dependent claim 15, variable sized field encodes color

information. MacInnis discloses a coded RGB16 pixel value comprising 15 bits, col. 5,

lines 60-63.

With respect to dependent claim 16, format includes a multi-bit alpha field if said

indicator field indicates said format instance is capable . . . MacInnis discloses a coded

CLUT8 pixel value comprising 8 bits and having an addition bits for establishing an

alpha value, col. 6, lines 64-67 and col. 7, lines 1-3.

As per independent claim 18, a method of encoding an image element

comprising: specifying whether said image element will encode semi-transparency;

MacInnis discloses a chroma compare operation using minimum and maximum values

from chroma register and if the pixel value is within a range setting a compare flag, col.

9, lines 15-20; and at least one variable sized field encoding further information

concerning said color image element . . . having a first length if said indicator field

indicates said format . . . is incapable . . . and a second length . . . if said indicator field .

. . is càpable . . . MacInnis discloses a coded RGB16 pixel value comprising 15 bits,

col. 5, lines 60-63 and further discloses a CLUT8 pixel value comprising 8 bits and

having an addition bits for establishing an alpha value, col. 6, lines 64-67 and col. 7,

lines 1-3.

With respect to dependent claim 20, MacInnis discloses high-resolution mode for

opaque pixel values without interpolation, col. 9, lines 5-38.

As per independent claim 21 and dependent claim 22, an alpha component

converter that converts between first and second resolutions of semi-transparency

information . . . quantizing or dequantizing first resolution semi-transparency information

into a predetermined number of equal sized steps . . . MacInnis discloses a color space

converter, col. 9, lines 31-33 and bypassing interpolation due to high resolution mode.

MacInnis discloses the data passing through a color look-up table to obtain RGB values,

col. 9, lines 53-58 and multiplying the RGB data with alpha through the color space

converter.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable

over MacInnis as applied to claims 14 and 18 respectively above, and further in view of

Fowler et al., U.S. Patent Number 6,339,428, "Method and Apparatus for Compressed Texture Caching in a Video Graphics System", class 345/582.

With respect to dependent claim 17, color image element encoding format encodes texels. MacInnis discloses a color image-encoding format, col. 6, lines 56-67. However, it is noted that MacInnis fails to disclose encoding texels. Fowler discloses compressing texture information by two-bit encoding texels, col. 3, lines 57-61. It would have been obvious to one of ordinary skill in the art at the time of the invention to include two-bit encoded texels as disclosed in Fowler in the color image encoding format of MacInnis, because in image processing to disclose video graphics accurately detailed textured are required.

With respect to dependent claim 19, image element comprises a texel. MacInnis discloses a color image-encoding format, col. 6, lines 56-67. However, it is noted that MacInnis fails to disclose encoding texels. Fowler discloses compressing texture information by two-bit encoding texels, col. 3, lines 57-61. It would have been obvious to one of ordinary skill in the art at the time of the invention to include two-bit encoded texels as disclosed in Fowler in the color image encoding format of MacInnis, because in image processing to disclose video graphics accurately detailed textured are required.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Motilewa A. Good-Johnson whose telephone number is

(703) 305-3939. The examiner can normally be reached on Monday - Friday 8:30 AM -

5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Mike Razavi can be reached on (703) 305-4713. The fax phone numbers

for the organization where this application or proceeding is assigned are (703) 872-9314

for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is (703) 306-

0377.

                                              Motilewa A. Good-Johnson
                                              Examiner
                                              Art Unit 2672

mgj
December 4, 2002

                                              JEFFERY BRIER
                                              PRIMARY EXAMINER